

REMARKS

Status of the Claims

Pending claims

Claims 1 to 15 as filed are pending.

Claims amended and added in the instant amendment

In the present response, claims 1 to 13 are amended, new claims 16 to 34 are added. Accordingly, after entry of the instant amendment, claims 1 to 13 and 16 to 34 will be pending and under examination.

Both before and after the above changes and cancellations, including the addition of new claims, the invention was described in full, clear, concise, and exact terms and met all conditions for patentability under 35 USC 101 et seq. The scope of the claims of any resulting patent (and any and all limitations in any of said claims) shall not under any circumstances be limited to their literal terms, but are intended to embrace all equivalents.

Outstanding Rejections

Claims 1 to 13 stand rejected under 35 U.S.C. §112, second paragraph. Claims 1 to 8 and 10 to 13 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 4 to 9, of U.S. Patent No. 5,876,997. Claims 1 to 8 and 10 to 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 4 to 9, of U.S. Patent No. 6,190,8. Applicants respectfully traverse all outstanding objections to the specification and rejection of the claims.

The Restriction Requirement and Election with Traverse

The Patent Office alleged that the pending claims of the application are directed to three separate and distinct inventions under 35 U.S.C. §121:

Group I: Claims 1-13, drawn in part to an expression system comprising a nucleotide encoding the polypeptide of SEQ ID NO:2, host cells comprising said expression system, and a method of producing the polypeptide of SEQ ID NO:2, classified in class 536, subclass 23.2.

Group II: Claims 12 and 13, drawn in part to a plant or a method to produce the polypeptide of SEQ ID NO:2 with said plant, classified in class 800, subclass 4.

Group III: Claims 14 and 15, drawn to a feed composition comprising the polypeptide of SEQ ID NO:2 and a method to treat humans or animals with said composition, classified in class 424, subclass 94.6.

In response to the Restriction Requirement, Applicant elected Group I, claims 1-13, drawn in part to an expression system comprising a nucleotide encoding the polypeptide of SEQ ID NO:2, host cells comprising said expression system, and a method of producing the polypeptide of SEQ ID NO:2, with traverse.

Applicants set forth distinct and specific errors in the restriction requirement and reasons for the Patent Office to reconsider and withdraw, in part, the restriction requirement. Applicants respectfully requested reconsideration of the restriction and requested that claims 12 and 13 of Group II and claim 14 of Group III also be examined in the present application, submitting that examination of claims 12, 13, and 14, along with elected claims 1-13, would not be unduly burdensome. Accordingly, Applicants preserved their right to petition the restriction to the Group Director under 37 CFR §1.144; see also MPEP §818.03(c); pg 800-60, 8th Edition, August 2001. Applicants will defer submission of the petition (which can be deferred until allowance of the claims).

Claims 14 and 15 were withdrawn from further consideration as drawn to an unelected invention.

The Patent Office notes that claims 12 to 13 are partially drawn to a non-elected invention. The instant amendment addresses this issue.

Support for the Claim Amendments

The specification sets forth an extensive description of the invention in the new and amended claims. Support for claims directed to phytases of the invention and nucleic acids of the invention encoding phytases, wherein the phytases have conservative substitutions of exemplary sequences, and conservative substitutions can be the replacements, one for another, among the aliphatic amino acids Ala, Val, Leu and Ile; interchange of the hydroxyl residues Ser and Thr, exchange of the acidic residues Asp and Glu, substitution between the amide residues Asn and Gln, exchange of the basic residues Lys and Arg and replacements among the aromatic

residues Phe, Tyr, can be found, inter alia, on page 30, second full paragraph. Support for claims directed to foodstuffs of the invention comprising a soybean, a corn or a sorghum can be found, inter alia, in the paragraph spanning pages 54 and 55. Accordingly, Applicants respectfully submit that no new matter is introduced by the instant amendments.

The Specification

The specification is objected to because it contains blank spaces on page 31, lines 20 to 21, and that the address of the ATCC is wrong. The instant amendment addresses this issue. References to an ATCC deposit have been deleted from the specification.

The abstract is objected to for reasons noted in paragraph 2 of the instant office action. The instant amendment addresses this issue.

Information Disclosure Statement

Applicants thank the Examiner for expressly considering (and initialing) the submitted Information Disclosure Statements (IDSs) and Forms PTO-1449.

Drawings

The attached sheet of drawings includes changes to Figure 1, including changes as requested by the Notice of Draftperson's Patent Drawing Review. The Figures are now labeled separately (i.e., Figure 1A, 1B and 1C). An annotated sheet showing changes is also attached.

The specification has also been amended to address this issue.

Claim Objections

Claims 12 to 13 are objected to for allegedly being partially drawn to a non-elected invention. The instant amendment addresses this issue.

Claim 9 is objected to for recitation of an abbreviation. The instant amendment addresses this issue.

Issues under 35 U.S.C. §112, second paragraph

Claims 1 to 13 stand rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 1 is objected to for reasons set forth in paragraph 10, pages 5 to 6, of the instant office action. The instant amendment addresses this issue.

Issues regarding Double Patenting

Claims 1 to 8 and 10 to 13 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 4 to 9, of U.S. Patent No. 5,876,997. An appropriate Terminal Disclaimer addressing this issue is attached.

Claims 1 to 8 and 10 to 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 4 to 9, of U.S. Patent No. 6,190,897. An appropriate Terminal Disclaimer addressing this issue is attached.

Regarding USSN 10/430,356, (atty ref. 09010-029010), a divisional application for United States Patent Application No. 09/580,515 (atty ref. 09010-029005), a copy of the pending claims is attached for the Examiner's convenience.

CONCLUSION

In view of the foregoing amendment and remarks, Applicants respectfully aver that the Examiner can properly withdraw the rejection of the pending claims under 35 U.S.C. §112, second paragraph, and under the judicially created doctrine of obviousness-type double patenting. Applicants respectfully submit that all claims pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Applicants believe that no additional fees are necessitated by the present response and amendment. However, in the event any such fees are due, the Commissioner is hereby authorized to charge any such fees to Deposit Account No. 06-1050. Please credit any overpayment to this account.

Applicant : Jay M. Short et al.
Serial No. : 09/777,566
Filed : February 5, 2001
Page : 17 of 17

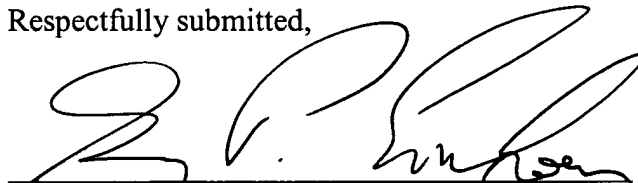
Attorney's Docket No.: 09010-029008 / DIVER 1370-6

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (858) 678-5070.

Respectfully submitted,

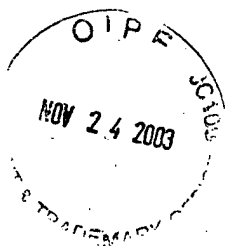
Date:

Nov. 21, 2003

A handwritten signature in black ink, appearing to read 'Gregory P. Einhorn', written over a horizontal line.

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~~FIGURE 1~~ ← Fig. 1A

(SEQ ID NO:1-nucleotide sequence and SEQ ID NO:2-amino acid sequence)

Escherichia coli B Phytase Sequence

1
ATG AAA GCG ATC TTA ATC CCA TTT TTA TCT CTT CTG ATT CCG
TTA ACC CCG
Met Lys Ala Ile Leu Ile Pro Phe Leu Ser Leu Leu Ile Pro
Leu Thr Pro

CAA TCT GCA TTC GCT CAG AGT GAG CCG GAG CTG AAG CTG GAA
AGT GTG GTG
Gln Ser Ala Phe Ala Gln Ser Glu Pro Glu Leu Lys Leu Glu
Ser Val Val

ATT GTC AGT CGT CAT GGT GTG CGT GCT CCA ACC AAG GCC ACG
CAA CTG ATG
Ile Val Ser Arg His Gly Val Arg Ala Pro Thr Lys Ala Thr
Gln Leu Met

CAG GAT GTC ACC CCA GAC GCA TGG CCA ACC TGG CCG GTA AAA
CTG GGT TGG
Gln Asp Val Thr Pro Asp Ala Trp Pro Thr Trp Pro Val Lys
Leu Gly Trp

CTG ACA CCG CGN GGT GGT GAG CTA ATC GCC TAT CTC GGA CAT
TAC CAA CGC
Leu Thr Pro Arg Gly Gly Glu Leu Ile Ala Tyr Leu Gly His
Tyr Gln Arg

CAG CGT CTG GTA GCC GAC GGA TTG CTG GCG AAA AAG GGC TGC
CCG CAG TCT
Gln Arg Leu Val Ala Asp Gly Leu Leu Ala Lys Lys Gly Cys
Pro Gln Ser

GGT CAG GTC GCG ATT ATT GCT GAT GTC GAC GAG CGT ACC CGT
AAA ACA GGC
Gly Gln Val Ala Ile Ile Ala Asp Val Asp Glu Arg Thr Arg
Lys Thr Gly

GAA GCC TTC GCC GCC GGG CTG GCA CCT GAC TGT GCA ATA ACC
GTA CAT ACC

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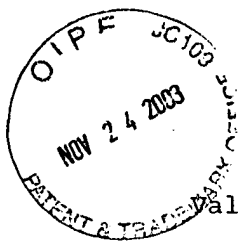


Fig. 1B

Glu Ala Phe Ala Ala Gly Leu Ala Pro Asp Cys Ala Ile Thr
Al His Thr

CAG GCA GAT ACG TCC AGT CCC GAT CCG TTA TTT AAT CCT CTA
AAA ACT GGC

Gln Ala Asp Thr Ser Ser Pro Asp Pro Leu Phe Asn Pro Leu
Lys Thr Gly

GTT TGC CAA CTG GAT AAC GCG AAC GTG ACT GAC GCG ATC CTC
AGC AGG GCA

Val Cys Gln Leu Asp Asn Ala Asn Val Thr Asp Ala Ile Leu
Ser Arg Ala

GGA GGG TCA ATT GCT GAC TTT ACC GGG CAT CGG CAA ACG GCG
TTT CGC GAA

Gly Gly Ser Ile Ala Asp Phe Thr Gly His Arg Gln Thr Ala
Phe Arg Glu

CTG GAA CGG GTG CTT AAT TTT CCG CAA TCA AAC TTG TGC CTT
AAA CGT GAG

Leu Glu Arg Val Leu Asn Phe Pro Gln Ser Asn Leu Cys Leu
Lys Arg Glu

AAA CAG GAC GAA AGC TGT TCA TTA ACG CAG GCA TTA CCA TCG
GAA CTC AAG

Lys Gln Asp Glu Ser Cys Ser Leu Thr Gln Ala Leu Pro Ser
Glu Leu Lys

GTG AGC GCC GAC AAT GTC TCA TTA ACC GGT GCG GTA AGC CTC
GCA TCA ATG

Val Ser Ala Asp Asn Val Ser Leu Thr Gly Ala Val Ser Leu
Ala Ser Met

CTG ACG GAG ATA TTT CTC CTG CAA CAA GCA CAG GGA ATG CCG
GAG CCG GGG

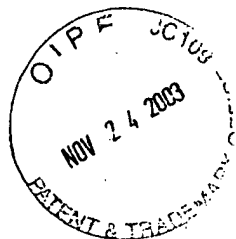
Leu Thr Glu Ile Phe Leu Leu Gln Gln Ala Gln Gly Met Pro
Glu Pro Gly

TGG GGA AGG ATC ACC GAT TCA CAC CAG TGG AAC ACC TTG CTA
AGT TTG CAT

Trp Gly Arg Ile Thr Asp Ser His Gln Trp Asn Thr Leu Leu
Ser Leu His

AAC GCG CAA TTT TAT TTG CTA CAA CGC ACG CCA GAG GTT GCC
CGC AGC CGC

Asn Ala Gln Phe Tyr Leu Leu Gln Arg Thr Pro Glu Val Ala
Arg Ser Arg



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Fig. 1C

GCC ACC CCG TTA TTG GAT TTG ATC ATG GCA GCG TTG ACG CCC
CAT CCA CCG

Ala Thr Pro Leu Leu Asp Leu Ile Met Ala Ala Leu Thr Pro
His Pro Pro

CAA AAA CAG GCG TAT GGT GTG ACA TTA CCC ACT TCA GTA CTG
TTT ATT GCC

Gln Lys Gln Ala Tyr Gly Val Thr Leu Pro Thr Ser Val Leu
Phe Ile Ala

GGA CAC GAT ACT AAT CTG GCA AAT CTC GGC GGC GCA CTG GAG
CTC AAC TGG

Gly His Asp Thr Asn Leu Ala Asn Leu Gly Gly Ala Leu Glu
Leu Asn Trp

ACG CTT CCC GGT CAG CCG GAT AAC ACG CCG CCA GGT GGT GAA
CTG GTG TTT

Thr Leu Pro Gly Gln Pro Asp Asn Thr Pro Pro Gly Gly Glu
Leu Val Phe

GAA CGC TGG CGT CGG CTA AGC GAT AAC AGC CAG TGG ATT CAG
GTT TCG CTG

Glu Arg Trp Arg Arg Leu Ser Asp Asn Ser Gln Trp Ile Gln
Val Ser Leu

GTC TTC CAG ACT TTA CAG CAG ATG CGT GAT AAA ACG CCG CTG
TCA TTA AAT

Val Phe Gln Thr Leu Gln Gln Met Arg Asp Lys Thr Pro Leu
Ser Leu Asn

ACG CCG CCC GGA GAG GTG AAA CTG ACC CTG GCA GGA TGT GAA
GAG CGA AAT

Thr Pro Pro Gly Glu Val Lys Leu Thr Leu Ala Gly Cys Glu
Glu Arg Asn

GCG CAG GGC ATG TGT TCG TTG GCA GGT TTT ACG CAA ATC GTG
AAT GAA GCA

Ala Gln Gly Met Cys Ser Leu Ala Gly Phe Thr Gln Ile Val
Asn Glu Ala

CGC ATA CCG GCG TGC AGT TTG AGA TCT CAT CAC CAT CAC CAT
CAC TAA 1323

Arg Ile Pro Ala Cys Ser Leu Arg Ser His His His His His
His End